

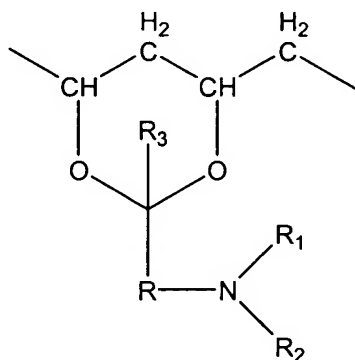
CLAIM AMENDMENTS

Please amend claims 1, 3, and 7-8 as follows:

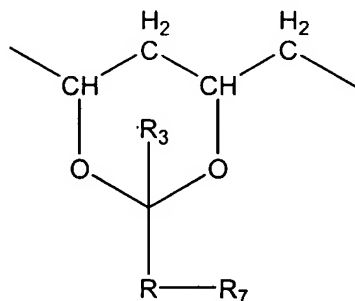
1. (Currently amended) A polymerizable material for making an ophthalmic device, comprising:
 - (a) a water-soluble polyvinyl alcohol having crosslinkable groups; and
 - (b) one or more members selected a modifier which is different from but miscible with the water-soluble polyvinyl alcohol and presented in the polymerizable material in an amount sufficient to improve one or more physical properties of the ophthalmic device made from the polymerizable material, wherein the one or more physical properties are selected from the group consisting of stress at break (N/mm²), percentage of elongation at break, toughness or energy to break (N-mm), and susceptibility to fracture, wherein the modifier is selected from the group consisting of nanoparticles having a hydrophilic surface, a copolymer composed of hydrophilic vinylic monomer units and hydrophobic vinylic monomer units, a non-crosslinkable polyurethane, a crosslinkable polyurethane with vinyl groups, and mixtures thereof, wherein the copolymer is a copolymerization product of a mixture including at least one hydrophilic vinylic monomer units are derived from the group consisting of hydroxy-substituted alkylmethacrylate, hydroxy-substituted alkylacrylate, N-vinyl-lactams, N,N-dialkyl-methacrylamide, and a mixture thereof and the at least one hydrophobic vinylic monomer units are derived from the group consisting of a C₁-C₁₈-alkylacrylate, a C₁-C₁₈-alkylmethacrylates, a di-C₁-C₇ alkylamino-C₁-C₇ alkylacrylate, an acrylonitrile, a methacrylonitrile, a vinyl-C₁-C₁₈-alkanoate, a C₂-C₁₈-alkenes, a C₂-C₁₈-halo-alkenes, styrene, a C₁-C₆-alkylstyrene, a vinylalkylether in which the alkyl moiety has 1 to 6 carbon atoms, a C₂-C₁₀-perfluoralkylacrylate, a C₂-C₁₀-perfluoralkylmethacrylates, an acryloxyalkylsiloxane, a methacryloxy-alkylsiloxane, glycidyl methacrylate, butoxyethylacrylate, a mixture thereof, wherein the percentage of the hydrophobic vinylic monomer units of the copolymer is sufficient high to impart at least one desired physical property to said ophthalmic device, wherein the percentage of the at least one hydrophilic monomer units of the copolymer is presented in the mixture sufficient high to render the resultant copolymer miscible with the water-soluble polyvinyl alcohol,
wherein component (b) is presented in the polymerizable material in an amount sufficient to improve one or more physical properties of the ophthalmic device made from the

polymerizable material, wherein the one or more physical properties are selected from the group consisting of stress at break (N/mm²), percentage of elongation at break, toughness or energy to break (N□mm), and susceptibility to fracture.

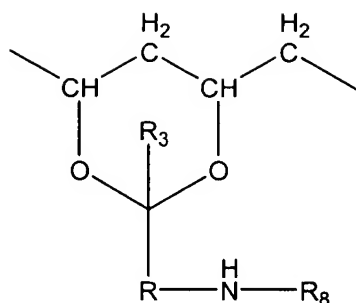
2. (Canceled).
3. (Currently amended) A polymerizable material of claim 32, wherein said water-soluble polyvinyl alcohol is a polyhydroxyl compound which has a weight average molecular weight of at least about 2000 and which comprises from about 0.5 to about 80%, based on the number of hydroxyl groups in the poly(vinyl alcohol), of units of the formula I, I and II, I and III, or I and II and III



in which R is alkylene having up to 12 carbon atoms, R₁ is hydrogen or lower alkyl, R₂ is an olefinically unsaturated, electron-withdrawing, crosslinkable radical having up to 25 carbon atoms, and R₃ is hydrogen, a C₁-C₆ alkyl group or a cycloalkyl group,



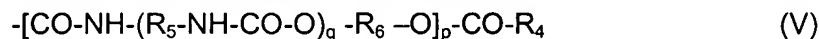
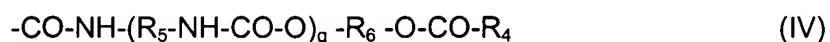
wherein R and R₃ are as defined above, and R₇ is a primary, secondary or tertiary amino group or a quaternary amino group of the formula N⁺(R')₃X⁻, in which each R', independently of the others, is hydrogen or a C₁-C₄ alkyl radical and X is HSO₄⁻, F⁻, Cl⁻, Br⁻, I⁻, CH₃COO⁻, OH⁻, BF₄⁻, or H₂PO₄⁻,



III

in which R and R₃ are as defined above, and R₈ is the radical of a monobasic, dibasic or tribasic, saturated or unsaturated, aliphatic or aromatic organic acid or sulfonic acid.

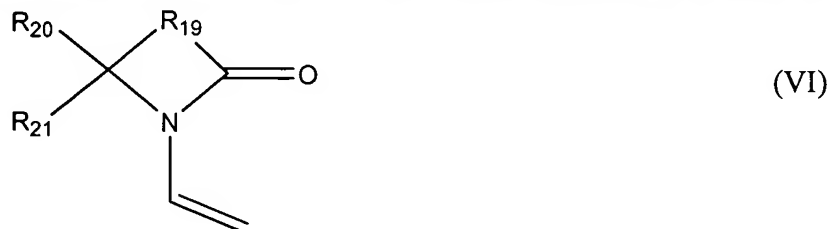
4. (Original) A polymerizable material of claim 3, wherein said water-soluble polyvinyl alcohol is a polyhydroxyl compound which has a molecular weight of at least about 2000 and which comprises from about 0.5 to about 80%, based on the number of hydroxyl groups in the poly(vinyl alcohol), of units of the formula I, wherein R₂ is a radical of formula IV or formula V



in which p and q, independently of one another, are zero or one, and R₅ and R₆, independently of one another, are lower alkylene having 2 to 8 carbon atoms, arylene having 6 to 12 carbon atoms, a saturated bivalent cycloaliphatic group having 6 to 10 carbon atoms, arylenealkylene or alkylenearylene having 7 to 14 carbon atoms or arylenealkylenearylene having 13 to 16 carbon atoms, and in which R₄ is an olefinically unsaturated copolymerizable radical having 2 to 24 carbon atoms, preferably having 2 to 8 carbon atoms, more preferably having 2 to 4 carbon atoms.

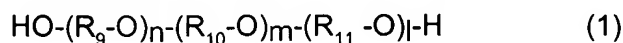
5. (Withdrawn) A polymerizable material of claim 3, wherein said modifier is composed of the nanoparticles having a hydrophilic surface.
6. (Withdrawn) A polymerizable material of claim 5, wherein the nanoparticles are nano-sized silica fillers.
7. (Currently amended) A polymerizable material of claim 3, wherein said component (b) comprises a ~~modifier is composed of one or more copolymers each having hydrophobic groups or units for imparting at least one desired physical property to said ophthalmic device and hydrophilic groups or units in an amount sufficient to render the copolymer miscible with the crosslinkable polyvinyl alcohol.~~
8. (Currently amended) A polymerizable material of claim 7, wherein the hydrophilic monomer units of said copolymer ~~modifier is a N-vinyl lactam copolymer which is a~~

~~copolymerization product of at least one N-vinyl lactam with one or more hydrophobic monomer, wherein said at least one N-vinyl lactam having has a structure of formula (VI)~~



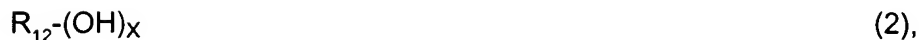
in which R₁₉ is an alkylene di-radical having from 2 to 8 carbon atoms, R₂₀ is hydrogen, C₁-C₇ alkyl, aryl having up to 10 carbon atoms, aralkyl or alkaryl having up to 14 carbon atoms, and R₂₁ is hydrogen or lower alkyl having up to 7 carbon atoms.

9. (Original) A polymerizable material of claim 8, wherein said N-vinyl lactam is N-vinyl pyrrolidone.
10. (Withdrawn) A polymerizable material of claim 7, wherein said modifier is a N,N-dialkylmethacrylamide copolymer which is a copolymerization product of a N,N-di-C₂-C₄ alkyl methacrylamide with at least one hydrophobic monomer.
11. (Withdrawn) A polymerizable material of claim 10, wherein the N,N-di-C₂-C₄ alkyl methacrylamide is N,N-dimethylmethacrylamide.
12. (Withdrawn) A polymerizable material of claim 7, wherein said modifier is a non-crosslinkable polyurethane having a molecular weight of at least about 2000, or a crosslinkable polyurethane.
13. (Withdrawn) A polymerizable material of claim 12, wherein said non-crosslinkable polyurethane is the reaction product of an isocyanate-capped polyurethane with water and amine, wherein said crosslinkable polyurethane is the reaction product of the isocyanate-capped polyurethane with an ethylenically unsaturated amine (primary or secondary amine) or an ethylenically unsaturated monohydroxy compound, wherein said isocyanate-capped polyurethane is a copolymerization product of
 - (a) at least one polyalkylene glycol of formula



wherein R₉, R₁₀, and R₁₁, independently of one other, are each linear or branched C₂-C₄-alkylene, and n, m and l, independently of one another, are each a number from 0 to 100, wherein the sum of (n+m+l) is 5 to 100,

- (b) at least one branching agent selected from the group consisting of
 - (i) a linear or branched aliphatic polyhydroxy compound of formula



wherein R_{12} is a linear or branched C_3 - C_{18} aliphatic multi-valent radical and x is a number ≥ 3 ,

(ii) a polyether polyol, which is the polymerization product of a compound of formula (2) and a glycol,

(iii) a polyester polyol, which is the polymerization product of a compound of formula (2), a dicarboxylic acid or a derivative thereof and a diol, and

(iv) a cycloaliphatic polyol selected from the group consisting of a C_5 - C_8 -cycloalkane which is substituted by ≥ 3 hydroxy groups and which is unsubstituted by alkyl radical, a C_5 - C_8 -cycloalkane which is substituted by ≥ 3 hydroxy groups and which is substituted by one or more C_1 - C_4 alkyl radicals, and an unsubstituted mono- and disaccharide,

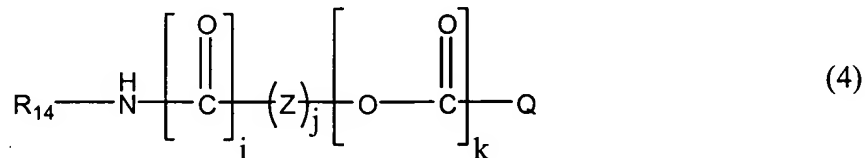
(v) an aralkyl polyol having at least three hydroxy C_1 - C_4 alkyl radicals, and

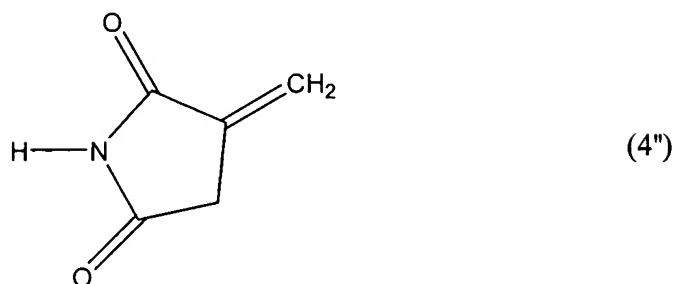
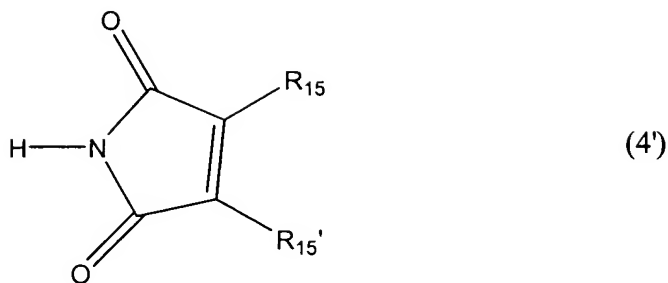
(c) at least one di- or polyisocyanate of formula



wherein R_{13} the multivalent radical of a linear or branched C_3 - C_{24} aliphatic polyisocyanate, the multivalent radical of a C_3 - C_{24} cycloaliphatic or aliphatic-cycloaliphatic polyisocyanate, or the multivalent radical of a C_3 - C_{24} aromatic or araliphatic polyisocyanate, and y is a number from 2 to 6,

wherein said ethylenically unsaturated monohydroxy compound is a hydroxy-substituted lower alkylacrylate, a hydroxy-substituted lower alkylmethacrylate, a hydroxy-substituted lower alkyl-acrylamides, a hydroxy-substituted lower alkyl-methacrylamide, or a hydroxy-substituted lower alkylvinylether, wherein said ethylenically unsaturated amine has formula (4), (4') or (4'')





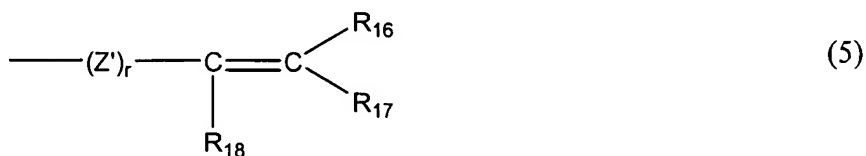
In which, I, j and k, independent of one another, are 0 or 1;

R₁₄ is hydrogen, a linear or branched C₁-C₂₄ alkyl, a C₂-C₂₄ alkoxyalkyl, a C₂-C₂₄ alkylcarbonyl, a C₂-C₂₄ alkoxy-carbonyl, an unsubstituted or C₁-C₄ alkyl- or C₁-C₄ alkoxy-substituted C₆-C₁₀ aryl, a C₇-C₁₈ aralkyl, a C₁₃-C₂₂ arylalkylaryl, a C₃-C₈ cycloalkyl, a C₄-C₁₄ cycloalkylalkyl, a C₇-C₁₈ cycloalkylalkylcycloalkyl, a C₅-C₂₀ alkylcycloalkylalkyl, or an aliphatic-heterocyclic radical;

Z is a C₁-C₁₂ alkylene radical, phenylene radical or C₇-C₁₂ aralkylene radical;

R₁₅ and R_{15'}, independently of each other, are hydrogen, C₁-C₄ alkyl or halogen;
and

Q is a radical of formula (5)



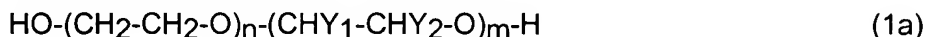
wherein r is the number 0 or 1,

each of R₁₆ and R₁₇ independently of the other is hydrogen, C₁-C₄ alkyl, phenyl, carboxy or halogen,

R₁₈ is hydrogen, C₁-C₄ alkyl or halogen, and

Z' is a linear or branched C₁-C₁₂ alkylene, an unsubstituted phenylene, an C₁-C₄ alkyl- or C₁-C₄ alkoxy-substituted phenylene, or a C₇-C₁₂ aralkylene.

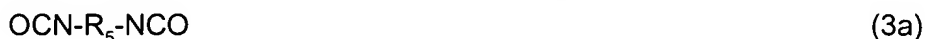
14. (Withdrawn) A polymerizable material of claim 13, wherein component (a) consists of one or more polyalkylene glycols of formula (1a)



wherein one of radicals Y₁ and Y₂ signifies methyl and the other radical signifies hydrogen, and n and m, independently of one another, each denote a number from 0 to 50, wherein the sum of (n+m) is 8 to 50,

wherein component (b) consists of one or more linear or branched aliphatic polyhydroxy compounds of formula (2), in which x is a number from 3 to 8,

wherein component (c) consists of one or more diisocyanates of formula (3a)



wherein R₅ is a linear or branched C₃-C₁₈-alkylene, an unsubstituted or C₁-C₄-alkyl-substituted or C₁-C₄-alkoxy-substituted C₆-C₁₀-arylene, a C₇-C₁₈-aralkylene, a C₆-C₁₀-arylene-C₁-C₂-alkylene-C₆-C₁₀-arylene, a C₃-C₈-cyclo-alkylene, a C₃-C₈-cycloalkylene-C₁-C₆-alkylene, a C₃-C₈-cycloalkylene-C₁-C₂-alkylene-C₃-C₈-cycloalkylene, or a C₁-C₆-alkylene-C₃-C₈-cycloalkylene-C₁-C₆-alkylene,

wherein said ethylenically unsaturated amine is selected from the group consisting of mono-C₁-C₄ alkylamino-C₁-C₄ alkyl-acrylates, mono-C₁-C₄ alkylamino-C₁-C₄ alkyl-methacrylates, di-C₁-C₄ alkylamino-C₁-C₄ alkyl-acrylates and di-C₁-C₄ alkylamino-C₁-C₄ alkyl-methacrylates, and wherein said ethylenically unsaturated hydroxy compound is selected from the group consisting of hydroxy-substituted C₁-C₆ alkylacrylates and hydroxy-substituted C₁-C₆ alkylmethacrylates.

15. (Withdrawn) A polymerizable material of claim 14, wherein said ethylenically unsaturated amine is 2-terbutylaminoethylmethacrylate or 2-terbutylaminoethylacrylate, wherein said ethylenically unsaturated hydroxy compound is 2-hydroxyethylmethacrylate or 2-hydroxyethylacrylate, wherein component (c) consists of a diisocyanate selected from the group consisting isophorone diisocyanate (IPDI), toluylene-2,4-diisocyanate (TDI), methylenebis(cyclohexyl-isocyanate), 1,6-diisocyanato-2,2,4-trimethyl-n-hexane (TMDI), methylenebis(phenyl-isocyanate) and hexamethylene-diisocyanate (HMDI).

- 16-46. (Canceled)